

INTERNATIONAL DISASTER MANAGEMENT COOPERATION: A CASE STUDY FOR TURKEY & THE USA

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Disaster management in Turkey today has strengthened through an important partnership with the United States Federal Emergency Management Agency, initiated in 2000. A large earthquake (magnitude 7.4) in 1999, which occurred in the Northwestern part of Turkey, caused tens of thousands of casualties, and left over three hundred thousand resident's homeless. The need for an improved disaster management system was apparent as the Prime Minister of the country, at that time, had to use live public television to reach officials in the Capitol to send aid, as all other communication lines had failed. Coordination between the local government and the central government also had shortcomings, which led to low public approval and satisfaction addressing their needs during response efforts. The Universities also saw their own shortcomings in terms of cooperation with the government in terms of disaster management educational and training programs. The Istanbul Technical University (ITU) was given the leadership to coordinate the first formal Disaster Management training program in Turkey, through Project ACHIEVE (A Cooperative Hazard Impact reduction Effort Via Education) which partnered with the Federal Emergency Management Agency (FEMA) in 2000.

1. Motivation for Cooperation – Project ACHIEVE

The Government of Turkey signed a memorandum of understanding (MoU) with the United States FEMA for Project ACHIEVE, A Cooperative Hazard Impact reduction Effort Via Education in 2000. This project had the mission to train-the-trainers in Emergency Management at a government institution in Turkey, namely the Istanbul Technical University (ITU). The trainers, afterwards, had to train local officials, and NGO's through a certificate program and ultimately initiate a degree program in disaster management. 30 full time faculty members at ITU from various schools (i.e., Architecture, Engineering, and Business Administration) were selected from among the 90 applicants who volunteered to take part in this project. The US State Department, Assistance in Disaster (USAID) funded project ACHIEVE from 2000 until 2004.

The program is outlined in detail below, as other countries have shown interest in initiating their own programs, and this case can serve as a guideline. The topics and courses chosen for Project ACHIEVE are outlined below. Each subject area was covered within one week, over a period of seven months.

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Principles and Planning of Emergency Management

Mission Objective: Give a basic understanding of the concepts of the U.S. system of emergency management, as well as the capability to develop emergency operations plans for communities.

Courses: 1. *Principles of Emergency Management*
2. *Emergency Planning*



Figure 1. The ACHIEVE Train-the-trainer program held at ITU, Istanbul

Basic Operations

Mission Objective: Prepare trainers with fundamental operating approaches by presenting incident command and emergency operating center training.

Courses: 1. *Basic Incident Command System*
2. *Emergency Operations Center Management and Operations*
3. *Incident Command System/ Emergency Operations Center Interface*

Mitigation

Mission Objective: Give trainers grounding in mitigation techniques and practices for all hazards and especially for earthquake hazards.

Courses: 1. *Introduction to Mitigation*
2. *Mitigation for Emergency Managers*
3. *Earthquake Program for Schools*

Exercise Capability-Building

Mission Objective: Present the basic tools to design, deliver and use exercises for building emergency management capabilities.

Courses: 1. *An Orientation to Community Disaster Exercises*
2. *Exercise Design*
3. *Exercise Evaluation*

Disaster-Resilient Communities

Mission Objective: Provide techniques and methods of developing the capacity of communities to lessen the effects of disasters and recruit, manage and retain volunteers.

Courses: 1. *Project Impact: Building Consensus in Disaster Resistant Communities*
2. *Developing Volunteer Resources*

Community Preparedness

Mission Objective: Focus trainers on preparing communities to be able to help themselves in the event of a disaster.

Courses: 1. *Workshop on Local Assessment*
2. *Donations Management Workshop*
3. *Community Emergency Response Team*

Earthquake Integrated Emergency Management

Mission Objective: Provide methods of addressing earthquake hazards and dealing with the impact of disasters using expert guidance and scenario-based training. The plan used in the opening session was used in the concluding session scenarios. An emphasis on earthquakes, among all hazards, was chosen, as there are high risks of earthquake occurrence in the near future along the northern Anatolian fault line. The most recent earthquake aftermath is shown in figure 2.



Figure 2. The town of Golcuk following the August 17, 1999 Earthquake

Other train-the-trainer courses held in Istanbul in 2004, following the man-made emergency events in Beslan, and Istanbul in 2003:

1. Homeland Security Planning
2. Multi-Hazard Emergency Planning for Schools

2. Publications by the Center of Excellence for Disaster Management:

The CEDM published all material used in the ACHIEVE training sessions in Turkey. The material was translated to Turkish by the 30 trainees, adapted to the Turkish governance and legal system, and local cases were identified and presented. This

task took over one year. One thousand copies of the books were initially published and sent out to all central government officials involved in disasters. Donations from University Alumni were solicited in order to publish the first set of books. As they were depleted, USAID sponsored the publishing of the second edition of the books in 2004. The list of publications of CEDM is presented in the Appendix.

3. Initial Projects funded by the Ministry of Interior, Republic of Turkey:

Upon the establishment of the Center of Excellence for Disaster Management at the Istanbul Technical University, the central government awarded the CEDM four grants in the following areas to improve the national disaster management system:

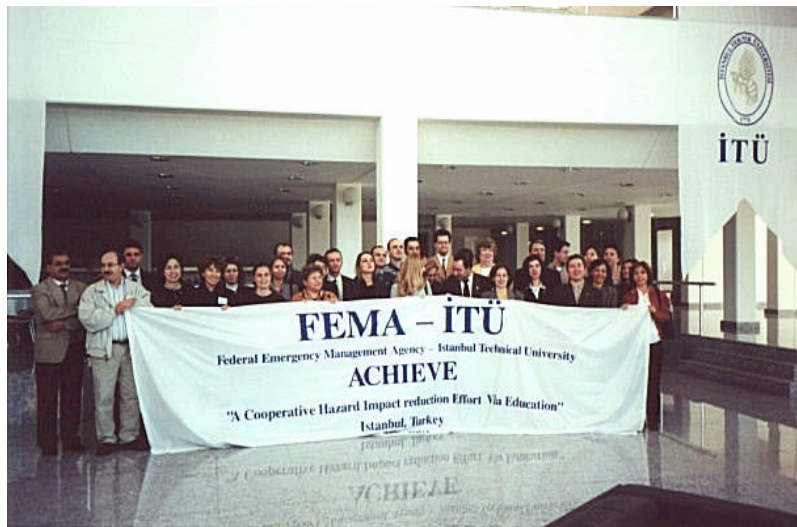


Figure 3. The inauguration of the CEDM at ITU (2001)

1. Turkish National Emergency Management, Education and Exercise Implementation Program: This program utilized the material used for the ACHIEVE train-the-trainer program. The books published following the training were followed for this program. The pilot area of the Marmara region of the country was selected, and local elected and selected officials were trained for a period of 5 days.

2. Development of a National Emergency Management Model: This project identified countries with disaster management systems that are successful, and proposed a model for Turkey. The countries that were investigated included the United States (FEMA), Japan, Canada, Austria, Belgium, Denmark, Germany, Spain, Finland, France, Germany, Ireland, Italy, Luxembourg, Holland, Portugal, Sweden and the United Kingdom.

3. The Restructuring of the Turkish Fire Brigades: This project required an analysis of current fire brigades systems across the globe, and a proposal for Turkey. With this framework, the fire brigades in the USA, Belgium, Germany, Greece, Netherlands, Switzerland, Japan, Australia, and New Zealand were examined. A new system was proposed, and volunteer firefighting began in Turkey following this proposal.

4. The Development of a National Database (GIS/RSS) & Standard for a Disaster Management Decision Support System: This project has become the framework for initiating “Hazard US – HAZUS” in Turkey. The Ministry of Interior has used the final product of the project as a standard for all Governorships in Turkey. The first steps for “HAZTURK” has begun in 2005 as a result of this national project.

4. Inauguration of a unique Graduate Degree Program in Disaster Management in Turkey and the Region:

The vast interest in the certificate programs held at the CEDM at ITU (over one thousand participants), and the terms of the MoU with FEMA led to the initiation of a master’s degree program in disaster management. There were challenges in initiating the Program, as it was to be the first and unique program in Turkey, with an opportunity to expand to the European, Central Asian region in the future.

The program was initiated in 2001 as a one-year non-thesis English evening graduate program, in cooperation with the Oklahoma State University and Texas A&M University. Instructors from the respective institutions traveled to Istanbul to teach in class. The following year, the program evolved into a 70% Turkish program, as the candidates were from local governments with minimal foreign language abilities. Currently, the program is a two year graduate program. Degree candidates are required to take a total of 36 credits, out of which 21 are from core courses, and at least 9 credits must be in English. The steps taken to inaugurate the program are described below:

Language of instruction:

Graduate Courses were based on the FEMA Higher Education Project led by Wayne Blanchard at the Emergency Management Institute. These courses were translated to Turkish, as 70% of the courses in the program are taught in Turkish. The cases in the courses were prepared from past local emergency events in Turkey.

Legal Issues

Faculty members attended seminars delivered by government leaders regarding Disaster Management Laws in Turkey. 12 laws were passed following the 1999 earthquakes, and are presented in Table 1. All laws have been incorporated in the certificate and academic degree program.

Table 1. Major Laws/Regulations Related to Disasters and
Responsible Ministries in Turkey

Name of the Law	Year/Law Number	Related Ministry/Institution
Civil Defense Law	1958/7126	Ministry of Interior
Law Related to Precautions and Aids for Disasters Effect Life in General	1968/7269	Ministry of Public Works
Law of Turkish Atomic Energy	1982/2690	Prime Ministry / Turkish Atomic Energy Agency
Extraordinary Situation Law	1983/2935	Council of Ministers
Construction/Development Law	1985/3194	Ministry of Public Works
Regulation on Emergency Response Organizations and Planning Principles for Disasters	1988/12777	Chamber of Ministers, Ministry of Interior, Ministry of Public Works, Turkish General Staff, Related Ministries, Turkish Red Crescent
Regulation on Management of Prime Ministry Crisis Center	1997/8716	Council of Ministers
Regulations on Additional Items on Disaster Effect	1999/580	Council of Ministers
Regulations on Disaster Mitigation	1999/582	Council of Ministers
General Directorate of Turkish Emergency Management	1999/583	Council of Ministers
Civil Defense and Municipality Law	1999/586	Council of Ministers
Natural Disaster Insurance (DASK)	1999/587	Council of Ministers
Regulations on Residence Funds	1999/588	Council of Ministers
Regulation on Construction Code Enforcement	1999/595	Council of Ministers
Regulations on Civil Defense Law	1999/596	Council of Ministers
Regulations on the Law Related to Precautions and Disaster Aid	1999/597 1999/598 1999/599	Council of Ministers
Municipality Law	2004/5272	Council of Ministers

Cultural Issues

The courses in the graduate program were enhanced with case studies from Turkey. The social dimensions of disasters in Turkey were also considered and were placed in the courses. Turkey and especially Istanbul is a melting pot of many cultures

and backgrounds. This sensitivity and heritage was respected in the preparation of the courses.

Graduate Job Placement

The Disaster and Emergency Management program applicants wanted to know of possible future job opportunities. Therefore, the CEDM did a feasibility study to investigate the possible positions for its graduates. Both the government offices and private sector showed interest in the program, and have hired the ITU graduates upon graduation. Many of the graduates are also involved in NGO's related to disasters.

University Senate & Board of Higher Education Approval

The Disaster Management degree program at ITU required approval from the University Senate, followed by approval from the Council of Higher Education, which overlooks all Universities and academic programs in Turkey. The ITU application had supporting letters from the Governor and Mayor of Istanbul, stating the timeliness and necessity for professional disaster managers in Turkey. The ITU disaster management master's degree program was approved, and is currently the only program in Turkey.



Figure 4. The Deputy Prime Minister of Turkey, H.E. Mehmet Ali Şahin's visit to FEMA Undersecretary Michael Brown in December, 2004.

The academic program of the master's degree program is presented in Table 2.

Table 2. The Master of Science Academic Program at ITU

Core Courses			
Course	Fall Semester		Spring Semester
AFY511E	Principles of Disaster and Emergency Management	AFY513	Policies in Disaster Management
AFY512	Principles and Practices of Hazards Mitigation	AFY532	Disaster Response Operations and Management
AFY531	Principles of Risk Management	AFY533	Research and Analysis Methods in Emergency Management
AFY551	Social Dimensions of Disasters		
Elective Courses			
AFY562	Tourism and Emergency Management	AFY553E	Human Resources in Emergency Management
AFY521E	Crisis Management, Disaster Recovery and Business Continuity	AFY523	Public Administration and Emergency Management
AFY522	Fire Risks and Management	AFY543	Environmental Hazards and Emergency Management
AFY541E	Individual and Community Disaster Education	AFY552E	Emergency Management Technology
AFY542	Managerial Decision Making and Communication Skills in Emergency Management	AFY563	Earthquake Hazard Management
AFY561E	Building Disaster Resilient Communities	AFY582	Hydro meteorological Hazards and Preparedness

The current status of Disaster and Emergency Management education around the world can be summarized in Figures 5 and 6. The United States is the leading country with the highest number of programs, and largest number of Universities involved academically in disaster management. The US is followed by Canada, Australia, the United Kingdom and Turkey.

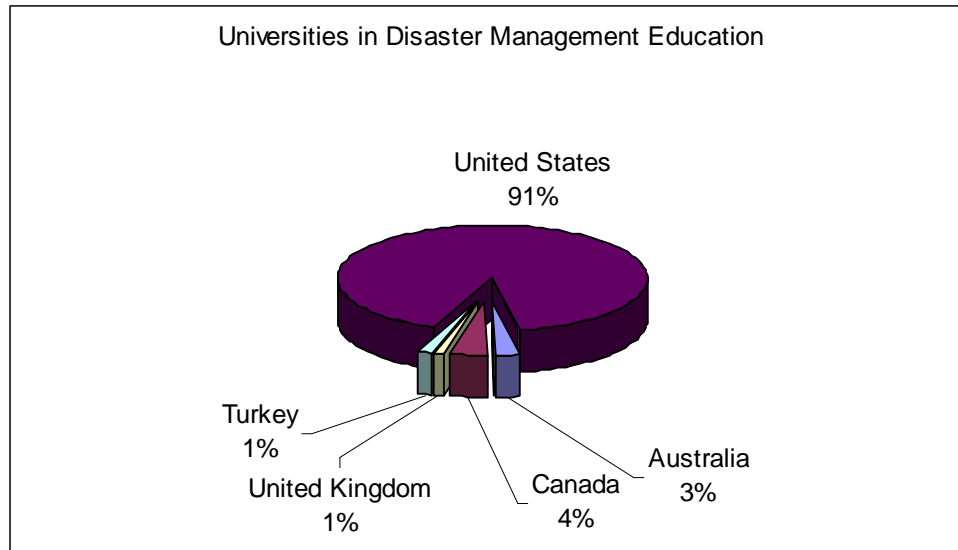


Figure 5. Percentage of Universities offering degree programs in disaster management

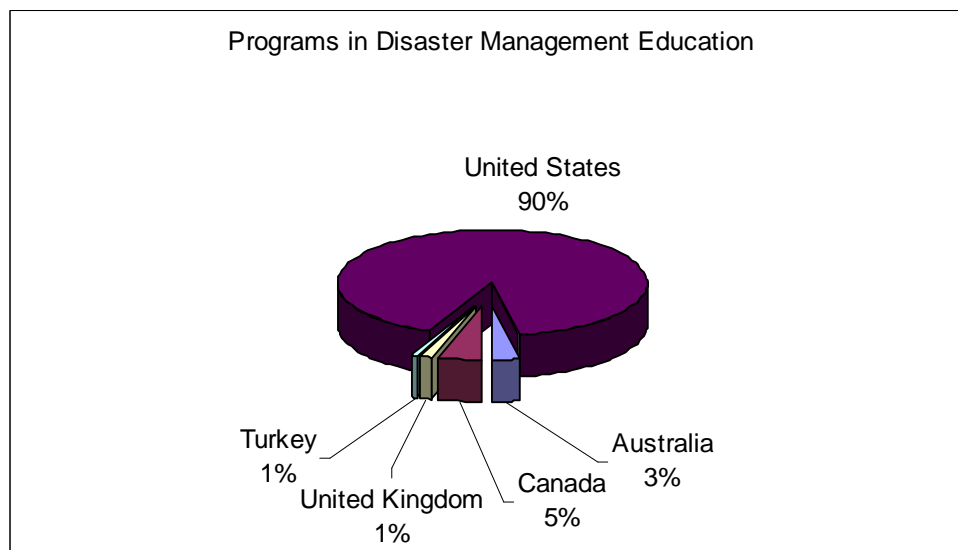


Figure 6. Global distribution of degree programs in disaster management

The current global distribution of programs in disaster management is listed in Table 3. There are 79 institutions in five countries offering certificate and degree programs. The occurrences of natural disasters around the world does not coincide with only 5 countries, as shown for disaster activity between the years of 1974 to 2003 presented in figure 7. Many countries around the world are affected by disasters; however, they do not have sustained educational programs at academic institutions. In order to minimize loss of life and property, countries must invest in training and exercises for those involved in various aspects of disasters.

Table 3. Global Distribution of Emergency Management Programs and
Number of Universities Offering Programs

Country	Programs						#University
	Certificate	Associate	Bachelor	Master	PhD	Total	
Australia	-	1	1	1	-	3	2
Canada	2	1	2	-	-	5	3
United Kingdom	-	-	-	1	-	1	1
Turkey	1	-	-	1	-	2	1
United States	41	27	15	32	6	121	72
Total	44	39	18	35	6	132	79

5. CEDM's role in National Service and Policy Issues:

The CEDM members have carried out and completed service projects along with the educational and training programs. A few of the important projects at the local and national scale are: Participation (and general secretary) for the Disaster Management and Public Awareness Committee of the Istanbul Greater Municipality Earthquake Master Plan, Participation (and reporter) for the Disaster Management Policy Committee of the Prime Ministry, State Planning Organization National Economics Conference. 13 members of CEDM were invited to join the Earthquake Preparedness National Think Tank of the Ministry of Settlements & Public Works.

Initiating an academic degree program in a Nation, requires that its faculty members become involved in policy making in this area as well, as there are no professionally trained disaster managers in the country. The University also has an important role to training of NGO's active in disasters. Raising awareness and actively participating in national service projects is a natural extension of the mission of the CEDM.

6. Conclusions and the Future of Disaster Management Education

Nations with disaster management education and training programs will assist their nations in minimizing losses. Examining the occurrences of natural disasters between 1974 and 2003 makes one wonder why there are no degree programs in South America, Africa, and Central Asia. Universities with programs in place will need to reach out to their regions, and enable other Universities to initiate programs. Distance learning, and web-based programs are also feasible and an economic alternative to initiating new in class programs. There are numerous programs in the United States

which offer programs on-line, and can be truly global with their certificate and degree programs through international cooperation.

Total Number of Natural Disaster Events by Country: 1974-2003

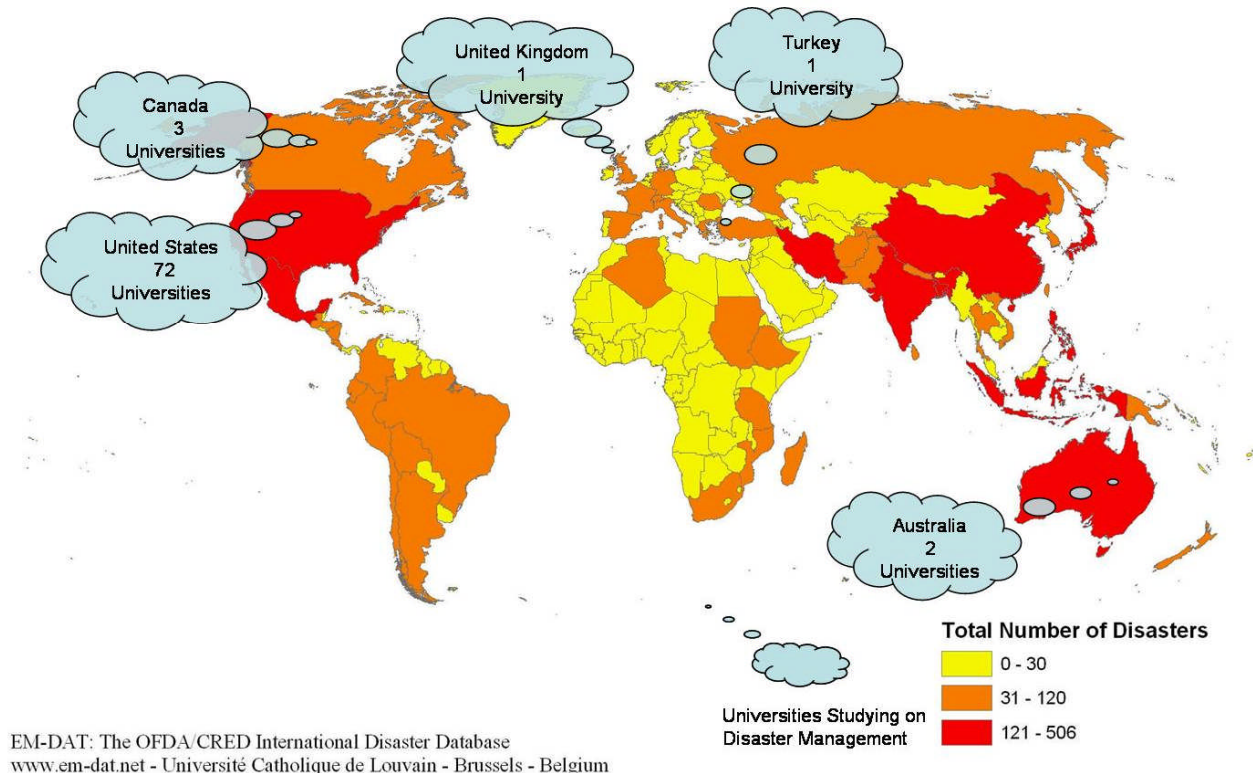


Figure 7. Distribution of Natural Disasters, and Number of Universities with Disaster Management related Academic Programs

The future of the profession of disaster management relies heavily on sustainable educational and training programs. Initiating web-based (on-line) certificate and degree programs in English and the local language will enable populations to be better prepared for disasters globally. The United States is at an admirable level, with the number of programs and institutions involved; now it is time for other nations to initiate their own programs through international partnerships. Accreditation of these educational programs will be needed, in order to have consistent quality, and the certification of disaster managers will also need to be at a global standard. Turkey currently has an exemplary program in place, due to the cooperation with the US FEMA. This is a partnership that has led to success for Turkey in disaster management.

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APPENDIX

List of Publications by the Center of Excellence for Disaster Management:

1. Principles of Emergency Management, (in Turkish), 232 pp., ITU Press, Istanbul, Turkey, 2001.
2. Emergency Planning, (in Turkish), 292 pp., ITU Press, Istanbul, Turkey, 2001.
3. Emergency Management Planning Tools(in Turkish), 172 pp., ITU Press, Istanbul, Turkey, 2001.
4. Emergency Operations Center(in Turkish), 220 pp., ITU Press, Istanbul, Turkey, 2001.
5. Incident Command System (in Turkish), 152 pp., ITU Press, Istanbul, Turkey, 2001.
6. Principles of Mitigation Handbook(in Turkish), 44 pp., ITU Press, Istanbul, Turkey, 2001.
7. Mitigation Strategies for Emergency Managers (in Turkish), 140 pp., ITU Press, Istanbul, Turkey, 2001.
8. Preparation for Disaster Exercises (in Turkish), 44 pp., ITU Press, Istanbul, Turkey, 2001.
9. Exercise and Scenario Planning(in Turkish), 200 pp., ITU Press, Istanbul, Turkey, 2001.
10. Disaster Resistant Communities (in Turkish), 160 pp., ITU Press, Istanbul, Turkey, 2001.
11. Developing Volunteer Resources (in Turkish), 208 pp., ITU Press, Istanbul, Turkey, 2001.
12. Principles for Media and Public Affairs in Emergencies (in Turkish), 314 pp., ITU Press, Istanbul, Turkey, 2001.

13. Community Emergency Response Teams (in Turkish), 248 pp., ITU Press, Istanbul, Turkey, 2001.
14. Acil Durum Yönetim Operasyonları(in Turkish), 148 pp., ITU Press, Istanbul, Turkey, 2001.
15. The Restructuring of the Turkish Fire Brigades under the Light of International Experiences, ITU Press, Istanbul, Turkey, 2001.
16. A National Emergency Management Model Study (in Turkish), ITU Press, Istanbul, Turkey, 2002.
17. A Model for Restructuring the Turkish Fire Bridade (in Turkish), ITU Press, Istanbul, Turkey, 2002.
18. Disaster Management Perspective of Terrorist Attacks in Istanbul November 15&20, 2003 (in Turkish), 116 pp., ITU Press, Istanbul, Turkey 2005.
19. Proceedings, FEMA-ITU Higher Education Conference in Turkey, Istanbul, Turkey, 2003.
20. Disaster Management Planning for Schools, (in Turkish), 328 pp., ITU Press, Istanbul, Turkey, 2004.
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